

## NERT Stakeholders meeting

Las Vegas

March 26, 2015

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Attendee list to be added.

1. Intro and welcome by Greg Lovato
2. ~~Andy Jay~~ Steinberg added to the intro
  - a. Received bulk of Anadarko money
  - b. Added additional personnel
  - c. Steve Clough is resident onsite Remediation Project Manager
  - d. Mark Hatch is now the NERT financial manager
  - e. Ready to continue work towards remedy
3. JD Goals and Milestones for the project
  - a. Consider additional potential ARARs and TBCs including recently published California PHG and future federal MCL
  - b. Implement actions with a goal of reducing load at North Shore Road to 10 lbs/day
  - c. Possible interim actions between now and remedy selection, if necessary
    - i. Weir construction enhancement and dewatering
    - ii. Continued optimization of NERT treatment facility
    - iii. Unit 4 soil flushing or other ~~remediation~~ options
    - iv. Installation of slurry walls, extraction wells or extraction well fields

~~b.d.~~ 2015 Milestones

1. NERT hired their RPM
2. Implementation of the continuous optimization program
3. Initiate both pilot studies
4. Complete RI field work
5. Unit 4 Investigations and chlorine line burial
6. Regional RI groundwater investigation to commence be implemented by year end.

7. NDEP needs to staff up their resources; may establish new Bureau; should be approved by current legislature

- a. The Current four staff members that will be transferred to new Bureau
- b. Additional staff will be added in FY 2016 and in FY 2017 as the project progresses
- c. Will request \$700K for Regional GW investigation RI activities and will be front funded by the Trust

8. May acquire land for a remediation system (from BRC); about 5 acres located near the outfalls Wash

9. AP5; 600 – 900 tons of perchlorate in the pond and will be addressed by ~~removal~~; this year

10. Establish up-gradient concentrations of Perchlorate, TDS and chromium

- a. TDS: 3000 mg/L
- b. As: 50 ug/L
- c. Perchlorate: 350 ug/L

e. Implement the Continuous Optimization Project for the GWETS

e.f. Work to reduce timeframes for review from both EPA and NDEP

d.g. Final remedy construction to ~~being~~ begin in 2021

e.h. NERT Presentations

i. Integrated TetraTech and Environ into a single focused team

1. Environ to lead the core RI investigation

- a. RI reporting lead
- b. GW modeling

2. Tetra Tech

- a. Pilot and Unit building RI investigations
- b. Site management services (site security)
- c. GWETS projects and oversights
  - i. Envirogen GWETS operator
- d. See slides

3. Environ RI Update

See slides

Is chloroform a new issue?

1. Need to address for VI
2. Not present at a mass to affect Wash water quality
3. Not necessarily identified as a NERT COPC
4. Part of the investigation was to determine if it is a NERT COPC

e. GW Modeling

i. See slides

4. Tetra Tech Unit 4 and 5 Investigation and Pilot Studies

i. See slides

f. Soil Flushing Pilot Test

- i. See slides
- ii. How will natural rain additions be addressed
  1. Monitoring wells should allow them to see the effects of rainfall additions
  2. Will use Lake Mead water for pilot test and will then determine the mass balance to control chloride buildup
  3. They will then determine the ratio of GWETS water to other sources (likely to be Lake Mead)

g. Bioremediation Pilot Test

- i. See slides
- ii. Byproducts
  1. Chloride should be the only one
  2. Sulfides and metals could precipitate as it likely did at AMPAC, but our substrate is a slow-release substrate and is known to minimize this phenomenon.

~~2.3~~ Fills pore space as it is a negatively charged emulsion

~~3.4~~ Initial injection is the more important than dilution ratio

5. It is not anticipated that a pressure injection will be required; more likely, gravity feed only to better coat the soil grains; the system is a pressure injection system and a step test on the injection wells will determine if any pressure is required.

~~4.6~~ How do you address the salt buildup due to recycling water?

a. Water is not recycled so this should not be an issue

~~5.7~~ If the initial study shows low microbe population; will they inject more

a. Will adjust as necessary but other studies from 4 years ago, shows good microbial results

~~6.8~~ Is there an upper limit of perchlorate concentration that can be treated

a. Probably up to 100s of ppm

b. At thousands, then salinity could become an issue, particularly onsite, where concentrations are in the 1000s ppm.

~~6.9~~ GWETS

i. See slides

ii. What does Envirogen mean by partnership

1. Essentially, they want to work cooperatively to resolve issues rather than just “work as directed by the Trust”

~~8.1~~ Perchlorate Removed from Environmental

i. See slides

h.i. GWETS Current Projects

- i. See slides
- ii. 2014 Enhanced Operational Metrics
- iii. AP-5 Solids Removal
- iv. GWETS 2013 Optimization

k. NERT Continuous Optimization Program

- i. See slides
- ii. Beginning of NERT intending to beginning to operate in a thoughtful, proactive manner rather than always asking NDEP and EPA “what should we do?”, “can we do this?”
- iii. What if soil flushing does not work?
  - 1. Believes they modify that adding extraction wells-wells between the Interceptor and Athens Road Well Fields and will capture additional mass bring in more water from other wells
- iv. Other elements that are balanced against mass removal?
  - 1. An important issue that they need to think about; can they reduce flow in specific locations in the Seep Well Field and divert hydraulic capacity to the Athens Road Well Field? Shift from where they are pumping to shift hydraulic capacity in the well field; need to fully foment these additional objectives
  - 2. How does the capture zone change and loading to the wash are two primary concerns
  - 3. What if more perchlorate was allowed to get into the wash in exchange for moving reducing the pumping load in some areas removing more mass upgradient of the wash?

- a. Not considering this, current SWF mass removal rate would be maintained
  - b. Monitoring and safeguards will be in place
- 4. Chromium issues
  - a. Need to determine what the choke points are and then determine how to ~~correct~~ expand the current plant ~~address~~ issues
  - b. Then consider a new plant or facility or treatment options
- 5. How does NERT “think for themselves” per the discussion above
  - a. Still have to check with NDEP/EPA
  - b. Submit status reports
  - c. Submit budgets
  - d. Workplans, etc.
  - e. Have the autonomy to make small changes that need to be addressed

4.1 JD Dotchin

- i. See presentation
- ii. Stowers presented a preliminary data gaps discussion
  - 1. Need to characterize surface water in the wash
    - a. There is some existing data but generated for a different purpose
    - b. Data is quite old
  - 2. Need a robust geophysical investigation
    - a. More data on paleochannels
    - b. Interaction of surface water and groundwater near the Wash is a significant data gap
    - b.c. Fault systems by the north shore

3. Subsurface flux

- a. Tracer test?
- b. Generally need more monitoring wells
  - i. Especially with respect to the paleochannels

4. Monitoring program

- a. Existing wells
- b. New wells

H. NERT Project Schedule

- a. see slides
- b. How is the community responding to this and how is the community updated?
  - i. JD Dotchin gets some emails or calls more about nuisance issues versus project details
  - ii. Not a big response at public meetings, maybe 20 people at the last community meeting
  - iii. There was lot of interest during off site hauling and construction projects for BRC
  - iv. 4000 letters went out for the community. 30 responses on dust issues, none had an overall opinion on the project
  - v. The additional outreach will be in the Tuscany area so this aspect is new and may generate some additional interest. This is a more affluent area so there may be more interest.

I. Trust Financials

- a. see slides
- b. currently, AIG is trying to ~~lecture-recover~~ over \$200mm from the trust under the auspices of subrogation; trust believes at most, ~~at most~~, there could be an \$11mm claim

J. DOD recovery

- a. see slides
- b. ~~DOD is recommending full payment of \$1.8mm, while reserving its rights with regard to pending redactions--however, redacted.~~
- c. ~~b. Amounts redacted~~ were not requested for reimbursement so it is not clear what their issue is

K. Trust Financials

- a. see slides